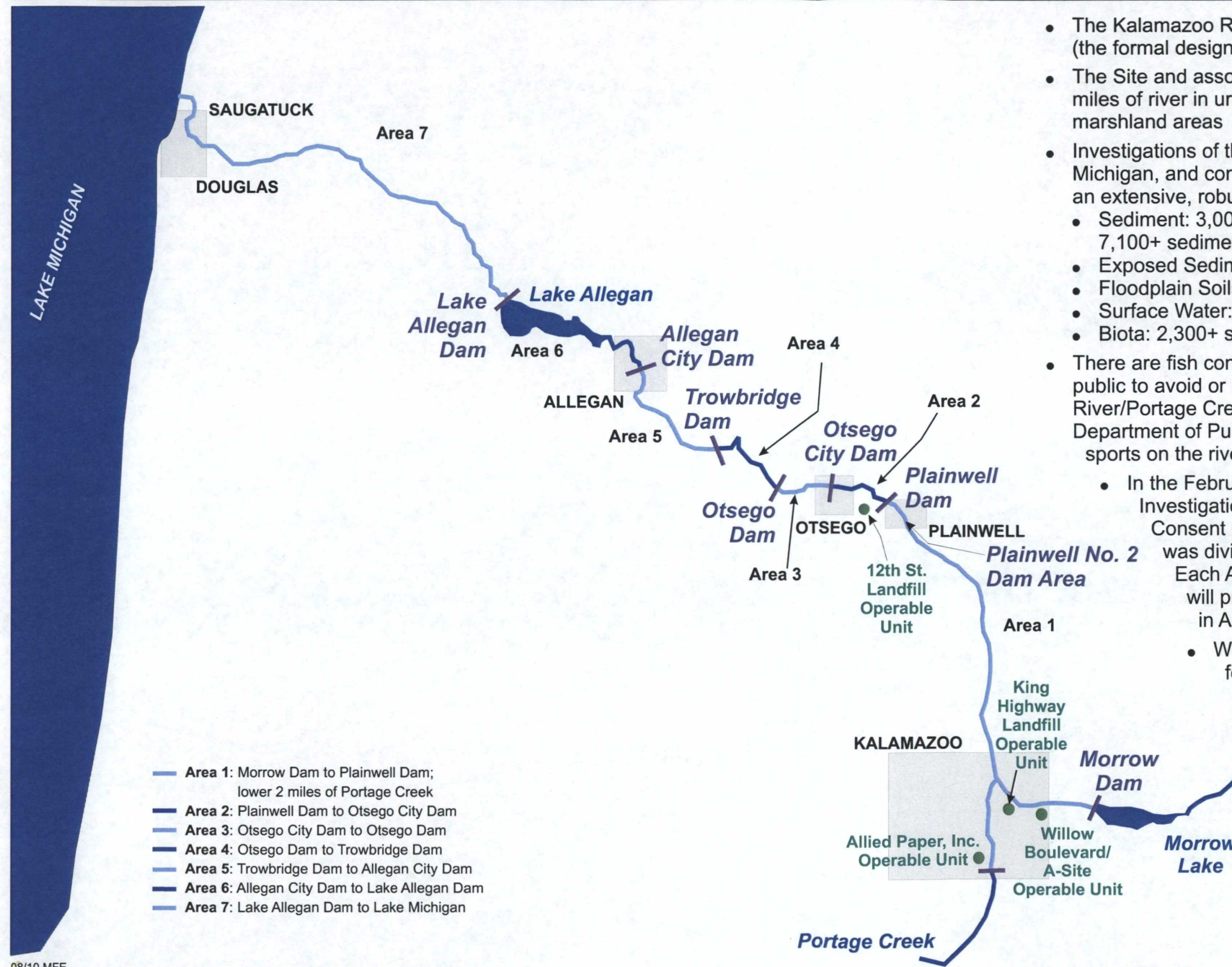


# Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site

## Fast Facts



- The Kalamazoo River was added to the National Priorities List (the formal designation for the Superfund program) in 1990
- The Site and associated investigation areas span nearly 80 miles of river in urban, rural, forested, agricultural, and marshland areas
- Investigations of the Site since 1993 by USEPA, the State of Michigan, and companies involved in the work have resulted in an extensive, robust, Site-specific database:
  - Sediment: 3,000+ sediment cores, 7,100+ sediment samples
  - Exposed Sediment: 1,400 samples
  - Floodplain Soils: 1,270 samples
  - Surface Water: 900+ samples
  - Biota: 2,300+ samples
- There are fish consumption advisories in place cautioning the public to avoid or restrict consumption of Kalamazoo River/Portage Creek fish; however, according to the Michigan Department of Public Health, "recreational activities and water sports on the river are safe to enjoy."
  - In the February 2007 Supplemental Remedial Investigation/ Feasibility Study Administrative Order on Consent (SRI/FS AOC), the river portion of the Site was divided into the seven Areas shown on the map. Each Area is bounded by a dam, and future work will proceed on an Area-specific basis. Field work in Area 1 began in September 2007.
  - Work on the Time-Critical Removal Action (the formal name for the cleanup project) in the former Plainwell Impoundment began in 2007; restoration efforts finished in June 2009; a second removal action/cleanup project in the Plainwell No. 2 Dam Area began in summer 2009 and is expected to be complete by the end of 2010.



# Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Former Plainwell Impoundment Time-Critical Removal Action

\$200/yd

## PROJECT SUMMARY

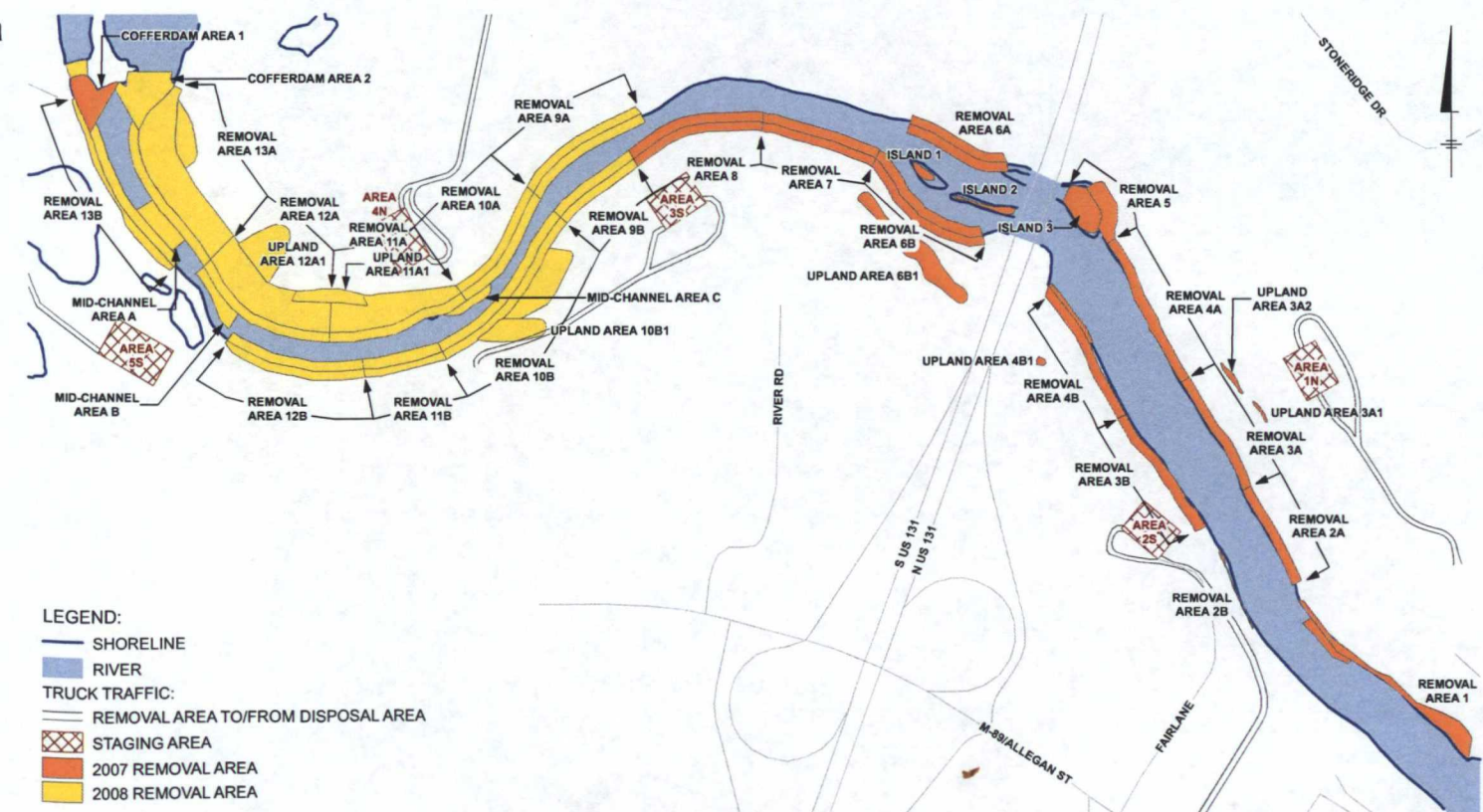
- **Overall Goal:** Stabilize eroding banks along the 1.5-mile stretch of the Kalamazoo River (the former Plainwell Impoundment) and stop the resupply of PCBs
- Site preparation activities began in **April 2007**; replanting was complete in **June 2009**
- Nearly **130,000 cubic yards** of sediments and soils were removed across 27 acres
- **3,675 loads** of excavated material were disposed of at three offsite commercial landfills, which involved more than 520,291 roundtrip miles
- Of the excavated material, 20,930 cubic yards were TSCA (classified as more than 50 ppm of PCBs; disposed of at TSCA-certified EQ Wayne Disposal landfill in Belleville) and 107,695 cubic yards were non-TSCA (disposed of at commercial landfills in Marshall and Coopersville)
- **5,000 pounds** of PCBs were removed from the system
- **3 miles** of river bank habitat were restored
- **2,000+ trees and shrubs** and **30+ native plant species** used in revegetation work
- A portion of the **former Plainwell Dam and the old powerhouse were removed** – **5 miles** of river between Plainwell No. 2 and Otsego City Dams has been returned to a free-flowing state, allowing passage of fish and boats
- Monitoring of the project area will continue for **three years** after completion



## THE PROCESS

- The project site was divided into several removal areas, and excavation/work activities started at the uppermost portions of the site and moved downstream
- Work in a removal area was deemed complete when clean-up goals were verified
- As work in a removal area was complete, the team followed up by stabilizing the river banks as necessary then replanting with native trees, shrubs, and grasses
- Environmental monitoring and construction quality assurance testing was conducted on a weekly basis

## Targeted Removal Areas





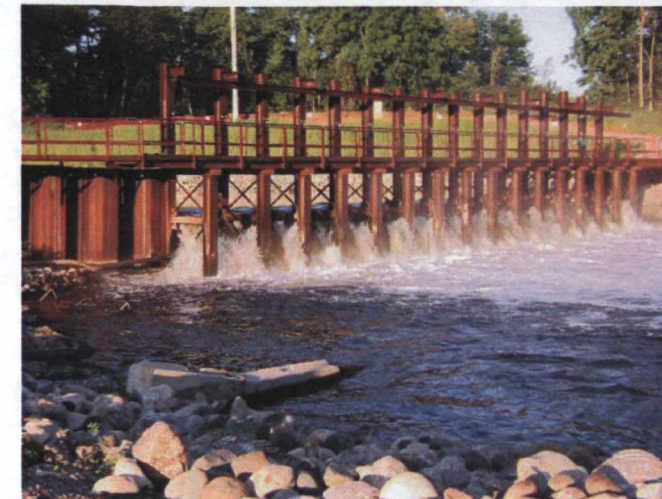
# Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Former Plainwell Impoundment Time-Critical Removal Action



May 2007: **Before** the start of the project, the western channel was blocked by a berm, and the river flowed over the Plainwell Dam



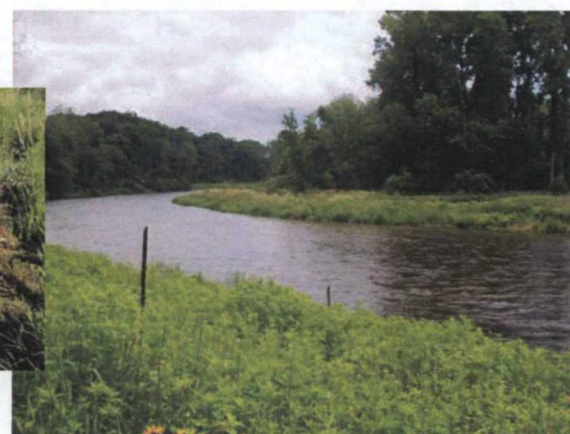
October 2007: **During** the first year of the project (2007), the river continued to flow over the dam while the berm was removed and the water control structure was constructed



Left – Summer 2008: The water control structure in operation  
Right – October 2010: View of the open channel, looking upstream from the 12th Street Landfill



August 2008: **During** the second year of the project (2008), the river flowed over the water control structure while sediments behind the dam were removed



Excavation areas were replanted with native grasses, flowers, and shrubs.



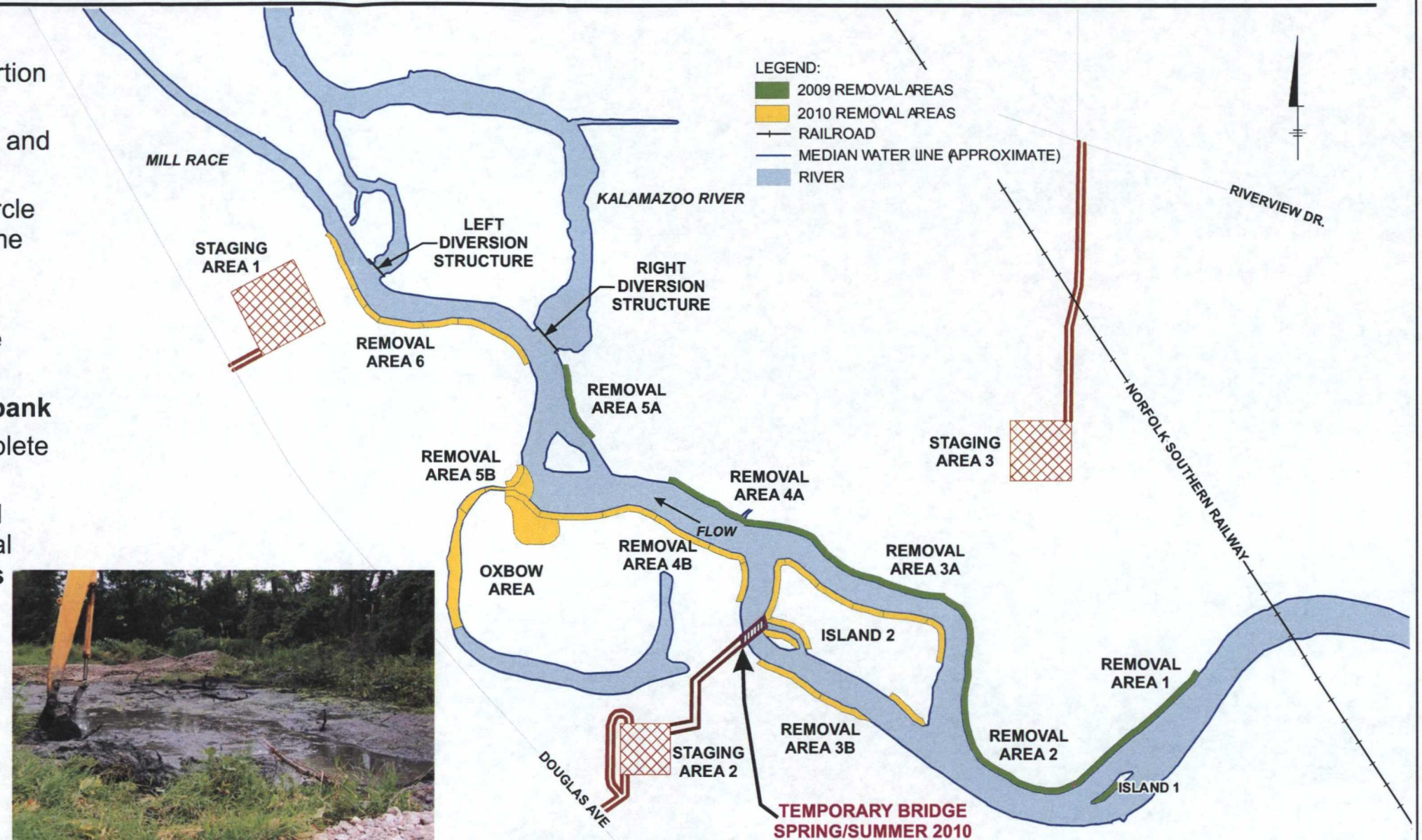
May 2009: **After** construction was complete, the water control structure was removed and the river began to flow freely through the restored western channel



# Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Plainwell No. 2 Dam Area Time-Critical Removal Action

\$500/yd

- The **Plainwell No. 2 Dam** is a series of low-head diversion dam structures constructed to divert a portion of the river flow to the mill race
- The dam structures are owned by State of Michigan and City of Plainwell
- The mill race and the main channel of the river encircle part of Plainwell, giving the “**Island City**” its nickname
- When in operation, the dam created an area of increased flooding that led to historical PCB accumulation, but to much lesser degree than in the former Plainwell Impoundment
- The project area stretched along **1.9 miles of riverbank**
- Work started in **July 2009**; efforts were largely complete in **October 2010**
- More than **18,500 cubic yards** of floodplain soil and sediment were removed and disposed in commercial landfills (all non-TSCA), and more than **210 pounds** of PCBs were removed from the system
- **11 acres** of river bank habitat were restored with more than **3,100 trees and shrubs**



The new canoe portage built in the Plainwell No. 2 Dam Area in 2009



Excavating in the Oxbow Area in September 2010



Removal work along the banks of Island 2 in June 2010



An off-road truck crossing the temporary floating bridge to Island 2 – the bridge was removed in July 2010



View of removal work on Island 2 from the temporary bridge in June 2010